



## Four New *Lerista* (Lacertilia: Scincidae) from Western and South Australia

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### Abstract

The new taxa are *L. picturata edwardsae*, a member of the *L. macropisthopus* group from South Australia, and *L. greeri*, *L. griffini* and *L. vermicularis*, members of the *L. bipes* group from Western Australia.

### Introduction

*Lerista*, second-largest genus of Australian skinks, continues to yield undescribed species and subspecies. For descriptions of the *L. macropisthopus* and *L. bipes* groups and of the close relatives of the new taxa see Storr (1972, 1976). This paper is based on material in the South Australian Museum (specimens cited without prefix), Australian Museum (AM) and Western Australian Museum (WAM).

### New Taxa

*Lerista picturata edwardsae* subsp. nov.

### Figure 1

#### Holotype

R17787 in the South Australian Museum, collected by G. Harold and T.M.S. Hanlon on 13 November 1979 in low open *Eucalyptus-Casuarina* woodland on brown limestone soil 6 km SE of Streaky Bay, South Australia, in 32°50'S, 134°15'E.

#### Paratypes

Ninety-seven specimens in the South Australian, Australian and Western Australian Museums. For details see Material.

#### Diagnosis

A subspecies of *L. picturata* with minute foreleg, didactyl hindleg and strong colour pattern, including 2 (rarely 4) dark dorsal lines and dark upper lateral stripe. Differing from *L. p. picturata* (Fry, 1914) in its much shorter foreleg, fewer dorsal lines (usually 2, v. 4) and fewer midbody scale rows (18-20, v. 20-22), and from *L. p. baynesi* Storr, 1972 by its much stronger colour pattern and more numerous subdigital lamellae (9-14 under second toe, v. 8-10).

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## Description

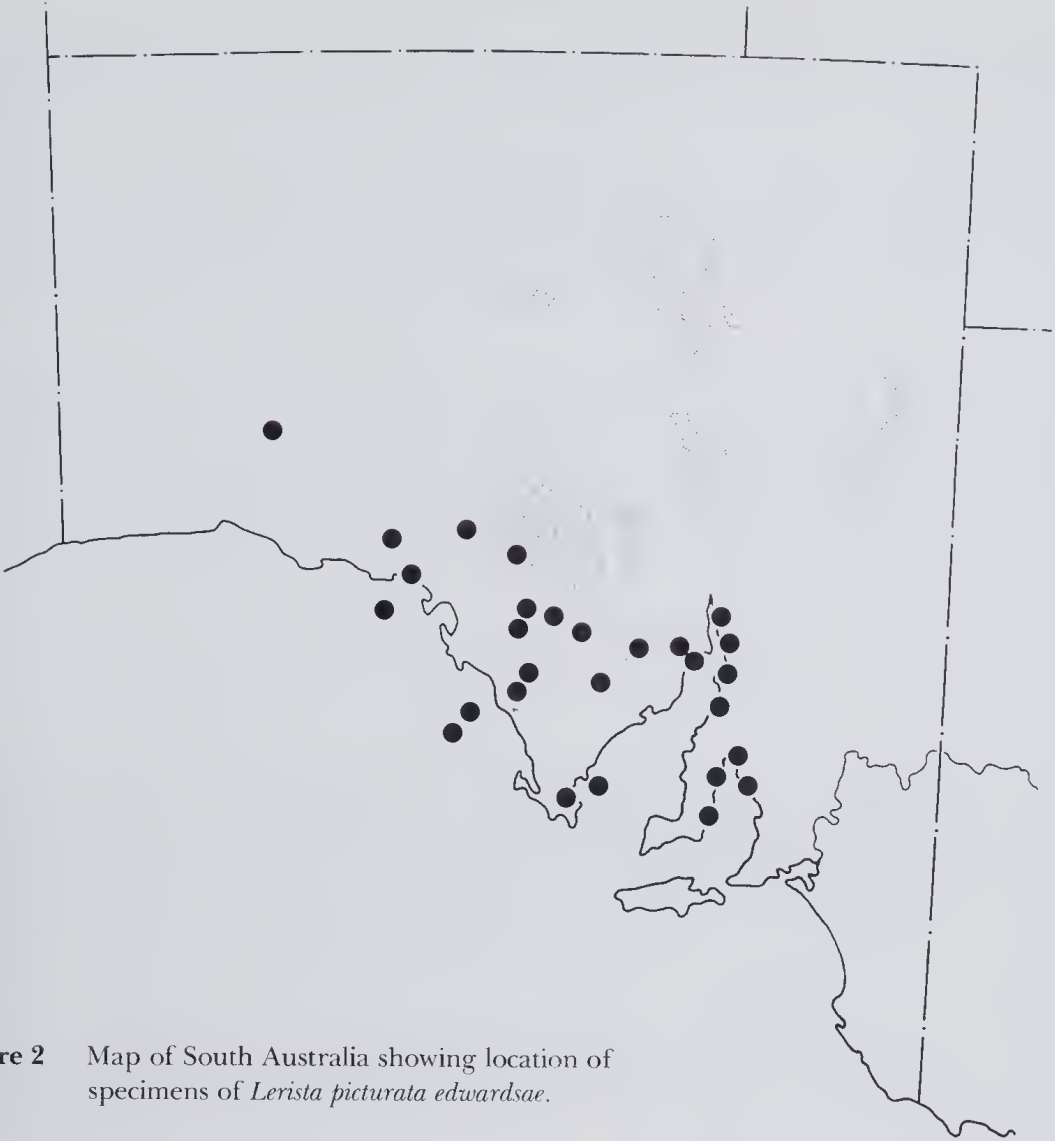
Foreleg reduced to a papillose tubercle (N 83); hindleg bearing two well-developed toes (N 80). Snout-vent length (mm): 37-95 (N 89, mean 72.9). Length of appendages (% SVL): hindleg 10.8-19.2 (N 80, mean 15.2); tail 75-100 (N 29, mean 87.5); snout to foreleg 20.5-29.0 (N 81, mean 23.5).

Nasals in contact (N 81). Prefrontals widely separated (N 81). Frontoparietals separated, each much smaller than interparietal (N 81). Usually no nuchals, occasionally one or two on each side. Supraoculars 3, first and second in contact with frontal (N 42) or only the second in contact (48). Supraciliaries 0 + 1 (N 7), 0 + 2 (68) or 0 + 3 (14). Temporals 2 (N 1) or 3 (83); upper secondary larger than primary (N 72) or subequal to it (7) or smaller (5); lower secondary much the smallest except in one specimen where it is fused to primary. Upper labials 5 (N 1) or 6 (85); first count due to fusion of second and third. Midbody scale rows 18 (N 48), 19 (4) or 20 (23). Lamellae under longer toe 9-14 (N 77, mean 11.2).

Upper surface pale brownish-grey (silvery-grey in life, at least in holotype) to greyish-brown. Two blackish dorsal lines from neck to tip of tail, each passing through a series of paravertebral scales; occasionally outside of these a series of blackish dorsal spots which rarely (3% of specimens) coalesce to form an additional pair of lines. Head variably marked with blackish, most markings taking form of a thick discontinuous margin to scales. Wide blackish upper lateral stripe from nasal to end of tail. Posterior edge of upper labials thickly margined with blackish-brown. Lower labials sometimes brown-



**Figure 1** Holotype of *Lerista picturata edwardsae* photographed in life by Gregory Harold.



**Figure 2** Map of South Australia showing location of specimens of *Lerista picturata edwardsae*.

edged. Forelimb tubercle and under toes greyish-brown. Remaining lower surfaces whitish in spirits (yellow in life—G. Harold and P. Griffin, pers. comm.).

### Distribution

Arid and semi-arid lowlands of southern South Australia west of the Flinders and Mt Lofty Ranges (Figure 2).

### Geographic Variation

The most distinctive population is that inhabiting the Nuyts Archipelago. These skinks are noticeably longer and stouter than those from elsewhere, e.g. SVL 75-95 mm (N 14, mean 87.1; v. 37-90, N 75, mean 70.3). They share two traits with the population

on the Investigator Group (also off the west coast of Eyre Peninsula), namely short hindleg (11.2-14.8% of SVL, N 18, mean 13.2; v. 10.8-19.2, N 62, mean 15.8 elsewhere) and short snout to foreleg (20.5-23.6% of SVL, N 18, mean 22.1; v. 21.6-29.0, N 63, mean 23.9 elsewhere).

The populations east and west of Spencer Gulf differ in two respects. On average the eastern skinks are darker, partly due to the greater extent of the head markings. They are also notable for the high frequency of individuals with only one supraocular in contact with frontal (88%, v. 33% west of Spencer Gulf).

## Remarks

Geographically, the subspecies *L. p. picturata*, *L. p. baynesi* and *L. p. edwardsae* form a west-to-east sequence. Morphologically, however, they do not form a sequence. The various character gradients from *picturata* to *baynesi* are steep, but none of them extends to *edwardsae*. Presumably *baynesi* and *edwardsae* have evolved independently from *picturata*. Indeed the latter and *edwardsae* may yet prove to be in contact in Western Australia north of the Nullarbor Plain.

## Derivation of Name

After Adrienne Edwards of the Department of Herpetology, South Australian Museum.

## Material

### *South Australia*

Ooldea (1794); 23 km N Koonibba Mission (31°42'S, 133°26'E) (15018); S. Childara Paddock (31°37'S, 134°32'E) (13745); 12 km SSE Lake Everard HS (WAM R69930-1); near Ceduna (3722, 4294); West I., Nuyts Archipelago (15983); St Francis I., Nuyts Archipelago (715 *a-g*, 12880 *a-f*); Pine Lodge HS (11705-6, 15579 *a-b*); Thurlga Woolshed (32°40'S, 135°40'E) (11703-4); Minnipa Hill (549); Buckleboo (1588 *a-c*, 8799); Lake Gilles Conservation Park (14381, 17989); False Bay (6083); Whyalla (14350) and 25 km NW (19061) and 15 km N (18707-8); near Minaro Downs HS (14193, 14203 *a-e*); Caraptee Rocks (5752); Mt Wedge (3358); Flinders I., Investigator Group (10211, 10225, 10227); Pearson I., Investigator Group (10235); Reevesby I., Sir Joseph Banks Group (12988; AM R79708); Port Lincoln (AM R6378-9, AM R6380 *a-b*); 24-28 km SSE Port Augusta (14270, 14272 *a-b*, 14279, 14297); Mambray Creek (13965); between Port Pirie and Port Augusta (5457 *a-e*); 6 km N Port Germein (12427 *a-d*, 12593); Port Pirie (12373); 3 km W Warnertown (10850-1); Port Broughton (9416, 14134); Price (11982-4); Ardrossan (11978-81); 7 km NW Stansbury (12499); Tiddy Widdy Beach, Yorke Peninsula (16982 *a-b*); Port Wakefield (4294); Parham (9298, 14604 *a-b*, 15613); 8 km W Dublin (14035); Port Prime (17875, 17878).

## *Lerista greeri* sp. nov.

### Holotype

R23005 in the Western Australian Museum, collected by G.M. Storr and A.M. Douglas on 1 September 1964 at 8 km SSE of Derby, W.A., in 17°22'S, 123°40'E.

### Paratypes

#### *Kimberley Division (W.A.)*

Lake Argyle (WAM R40001-2); 23 km NNE Dunham River HS (WAM R23080); Point Torment (WAM R58571); Derby (WAM R20295-6, 20333-7) and 24 km SSE (WAM R18210, 32169, 32343);



Christmas Creek (WAM R57149); Wolf Creek Meteorite Crater (WAM R64044-5); Granny Soak, Gardiner Range (19°07'S, 128°53'E) (WAM R51239, 51242).

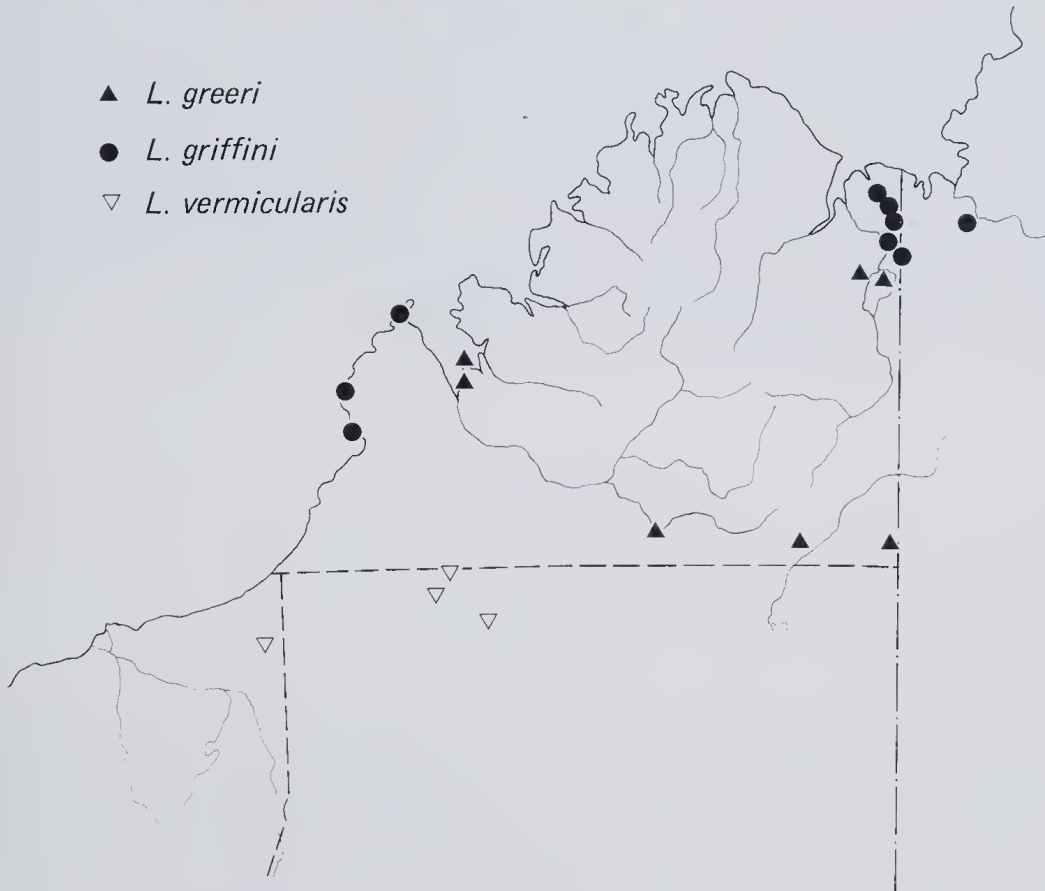
### Diagnosis

A member of the *L. bipes* group with movable eyelid, two toes and no trace of forelimb (including groove). Most like *L. bipes* (Fischer, 1882) and *L. labialis* Storr, 1972, but distinguishable from *bipes* by its 6 (rather than 5) upper labials and 20 (rather than 18) midbody scale rows, and from *labialis* by having 2 (rather than 1) supraocular in contact with frontal, and 1 or 2 supraciliaries (rather than none).

### Description

Snout-vent length (mm): 26-62 (N 20, mean 46.8). Length of appendages (% SVL): hindleg 13.9-21.2 (N 16, mean 17.0); tail 72-91 (N 6, mean 84).

Nasals narrowly separated (N 18) or in short contact (2). No prefrontals (apparently fused to second loreal, as in *L. bipes* and *L. labialis*). Nuchals 1-3 (N 20, mean 2.0). Supraoculars 3, first two in contact with frontal. Supraciliaries 0 + 1 (N 15) or 0 + 2 (4). Loreals 2, second high with acute apex. Preocular 1. Temporals 3, upper secondary



**Figure 3** Map of northern Western Australia showing location of specimens of *Lerista greeri*, *L. griffini* and *L. vermicularis*.

usually largest, lower secondary much the smallest. Upper labials 6 (N 20). Midbody scale rows 19 (N 1) or 20 (19). Lamellae under longer toe 8-10 (N 20, mean 8.9).

Upper surface pale brown or pale reddish brown marked with dark brown as follows: scattered spots or smudges on head; a line of dots through each paravertebral series, dots sometimes coalescing to form a narrow stripe; occasionally a laterodorsal series of faint dots; and a wide upper lateral stripe from nostril to end of tail. Ventral and lower lateral surfaces whitish.

### Distribution

Far northern Western Australia (semi-arid zone of south and east Kimberley), mainly on sandy and loamy soils (Figure 3).

### Remarks

This species is morphologically intermediate between *L. bipes* and *L. labialis*; it has the supraoculars and supraciliaries of the former, and the upper labials and midbody scale rows of the latter. *Lerista greeri* could thus be close to the common ancestor of these species. However it is now probably sympatric with both of them. In the Kimberley *bipes* generally ranges north to Coulomb Point, the Edgar Ranges and Gregory Salt Lake, i.e. to the south of *greeri*, but there is an isolated population considerably further north (if WAM R37698 from Manning Creek is correctly identified as *bipes*). In the Kimberley, *labialis* has been collected in the southern semi-arid zone near Mt North, Mt Percy and Fitzroy Crossing.

A single specimen (WAM R188) collected in November 1913 by W.B. Alexander on one of the Wallabi Islands, Houtman Abrolhos, is indistinguishable in scutellation from *L. greeri*. However it is now entirely devoid of coloration.

### Derivation of Name

After Allen E. Greer of the Australian Museum.

### *Lerista griffini* sp. nov.

#### Figure 4

### Holotype

R75543 in the Western Australian Museum, collected by P. Griffin and G. Harold on 12 March 1981 at Kununurra, Western Australia, in 15°47'S, 128°44'E.

### Paratypes

#### *Kimberley Division (W.A.)*

Ninbing (WAM R27913): Point Springs, Weaber Range (WAM R26774); 18 km NE Kimberley Research Station (WAM R17105); 21 km SE Kununurra (WAM R23108) and 37 km SE (WAM R23113); Martins Well (8 km S Lombadina) (WAM R60849-50); mainland opposite Packer I. (WAM R60904); 4 km S to 7 km N Coulomb Point (WAM R58472, 60844, 60855-6, 60870, 60906-7, 61362); Broome (WAM R1257, 14112 *a-b*, 29159).

#### *Northern Territory*

Bullo River HS (WAM R60337).



**Figure 4** Holotype of *Lerista griffini* photographed in life by Philip Griffin.

### Diagnosis

A member of the *L. bipes* group with movable eyelid, two toes and no trace of forelimb (including groove). Most like *L. bipes*, *L. greeri* and *L. labialis*, but differing in its greater size, stouter body, darker coloration, low flat-topped second loreal and lack of preocular.

### Description

Snout-vent length (mm): 47-67 (N 22, mean 57.2). Length of appendages (% SVL): hindleg 12.9-18.3 (N 21, mean 15.5); tail 68-106 (N 10, mean 91).

Nasals very narrowly separated (N 16) or in point contact (3). No prefrontals (apparently fused to frontal). Nuchals 0-3 (N 21, mean 1.7). Supraoculars 3, first two in contact with frontal. Supraciliaries 0 + 1 (N 4) or 0 + 2 (18). Loreals 2, second much wider than high. No preocular (fused to second loreal). Temporals 3, upper secondary slightly larger than or subequal to primary, lower secondary much the smallest. Upper labials 5 (N 22). Midbody scale rows 20 (N 21) or 21 (1). Lamellae under longer toe 8-11 (N 22, mean 9.2).

Upper surface brown or reddish-brown marked with dark brown as follows: scattered spots or smudges on head; a paravertebral stripe or line of dots from occiput to end of tail; occasionally a laterodorsal series of small indistinct spots; and a wide upper lateral stripe from nostril to end of tail. Ventral and lower lateral surfaces whitish.

### Distribution

Disjunct in far north of Western Australia: semi-arid zone of west Kimberley (Dampier Land) and of east Kimberley (lower Ord valley), and extending from latter into extreme north-west of Northern Territory (Figure 3).

### Remarks

This species is sympatric with *L. bipes* on the west coast of Dampier Land and parapatric (perhaps marginally sympatric) with *L. greeri* in the Cockatoo Springs-Lake Argyle region.

### Derivation of Name

After Philip Griffin, formerly of the Western Australian Museum, in appreciation of his excellent assistance in 1979-81.

### *Lerista vermicularis* sp. nov.

#### Holotype

R73814 in the Western Australian Museum collected on 17 August 1981 by M.J. Bamford at Dragon-tree Soak, Western Australia, in 19°39'S, 123°23'E.

#### Paratypes

*Eastern Division (W.A.)*

McLarty Hills (19°30'S, 123°30'E) (WAM R73815-6); Joanna Spring (20°05'S, 124°12'E) (WAM R73818).

*North-Western Division (W.A.)*

63 km SE Wallal (WAM R60157).

### Diagnosis

A small slender member of the *L. bipes* group with immovable eyelid, two toes, and no trace of forelimb (including groove). Most like *L. labialis*, *L. greeri* and *L. bipes*, but lacking a preocular and lower secondary temporal, and having an immovable eyelid, smaller supraoculars, body angular at change from lateral to ventral surface, and dark upper lateral stripe not so well defined. Further distinguishable from *L. bipes* and *L. greeri* by absence of supraciliaries, and from *L. labialis* by fewer labialis (5, v. 6) and midbody scale rows (16-18, v. 20). Distinguishable from *L. griffini* by fewer supraoculars (2, v. 3), supraciliaries (0, v. 1-2), temporals (1-2, v. 3) and midbody scale rows (16-18, v. 20-21).

### Description

Snout-vent length (mm): 32-41.5 (N 5, mean 37.8). Length of appendages (% SVL): hindleg 15.2-21.3 (N 5, mean 18.3), tail 73-89 (N 4, mean 80).

Nasals separated. No prefrontals. Frontal slightly wider than long. Nuchals 1-2 (N 5,



mean 1.8). Supraoculars 2, small, first in contact with frontal. No supraciliaries. Loreals 2. No preocular (fused to second loreal). Temporals usually 2, primary the smaller and occasionally fused to fourth labial. Upper labials 5. Midbody scale rows 16 (N 2) or 18 (3). Lamellae under longer toe 7-11 (N 5, mean 8.8).

Upper surface buff or very pale reddish brown, marked with dark brown as follows: 1-5 small irregular spots on frontonasal and frontal; 0-4 lines of small spots on back, passing through centre of dorsal scales, central (paravertebral) pair extending on to tail, where spots become larger, darker and more closely spaced; and upper lateral stripe from nasal to end of tail, broken on head, variably defined on body, more conspicuous on tail. Ventral and lower lateral surfaces whitish.

### **Distribution**

Crests of dunes in Great Sandy Desert (northern interior of Western Australia) (Figure 3).

### **Derivation of Name**

From Latin *vermiculus* (little worm).

### **Acknowledgements**

I am grateful to Drs T.D. Schwaner and A.E. Greer for the loan of specimens in the South Australian and Australian Museums respectively. I am also grateful to Dr Greer for pointing out the diagnostic characters of *Lerista greeri* and *L. griffini*.

### **References**

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